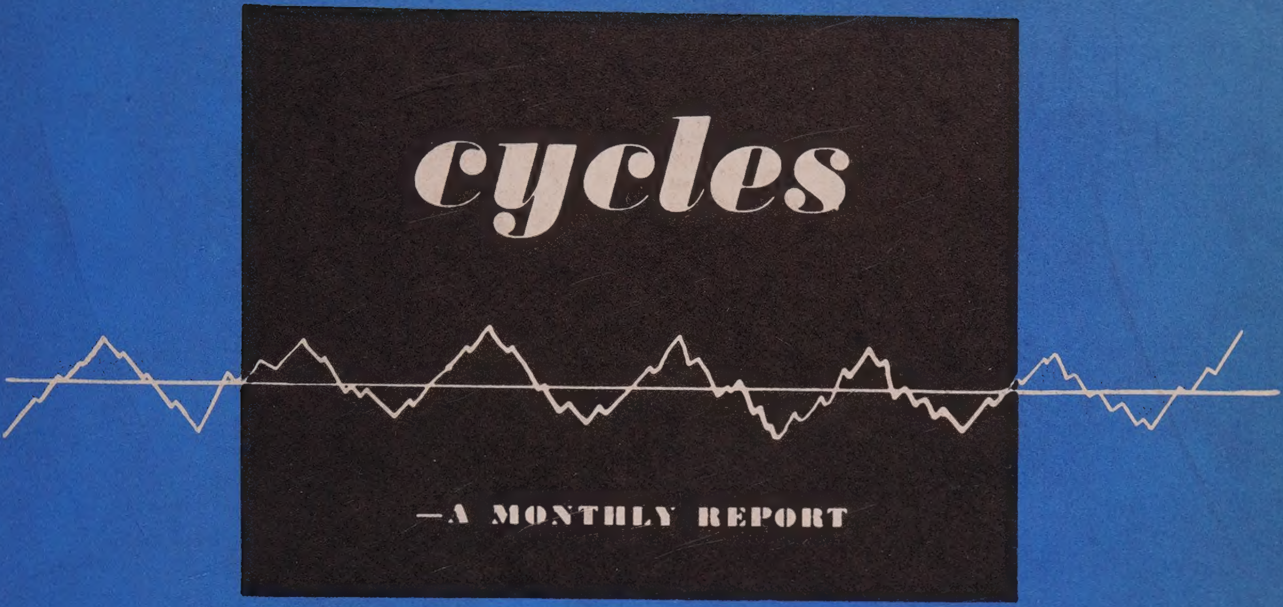


cycles

—A MONTHLY REPORT

March 1955

FOUNDATION FOR THE STUDY OF CYCLES
New York, New York

CONTENTS

Page
DIRECTOR'S LETTER 71

RESEARCH

Three Hypotheses 74
The 5½-Year Cycle in Corn Prices continued 77
The 3½-Year Cycle In Conscience Money Paid by British Taxpayers 82
"Inspiration" 84
Samuel Turner Benner 86

TECHNICAL

Combination of Cycles, by H. K. R. 88

FOUNDATION AFFAIRS 91

HOW IT CAME OUT

My Stock Market Forecast of 1944 92
The 6-Year Cycle in Allis-Chalmers Sales 94

LETTERS 96

ADDITIONS TO LIBRARY 97

THE MODIFIED GEISINGER INDICATOR OF INDUSTRIAL PRODUCTION . . . 98

THE FOUNDATION FOR THE STUDY OF CYCLES

The Foundation is a not-for-profit corporation, the board of directors of which consists of the following committee:

UNITED STATES OF AMERICA

Copley Amory, Chairman Emeritus

Charles Greeley Abbot
Research Associate
Smithsonian Institution

Harold Elmer Anthony
Chairman and Curator
Department of Mammals
American Museum of Natural History

George Baekeland, Chairman of the
Committee of the Foundation
The Bakelite Corporation

Harold Gardiner Bowen
Vice, Admiral, U.S. Navy, Retired
Executive Director, Thomas Alva
Edison Foundation

Verne Burnett
Partner
Verne Burnett Associate

Hon. W. Cameron Forbes
Member, Board of Trustees
Carnegie Institution of Washington;
Life Member of the Corporation,
Massachusetts Institute of Technology

Webster N. Jones
Vice President
Carnegie Institute of Technology

Daniel Trembly MacDougal
Former Director
Department of Botanical Research and
Laboratory of Plant Physiology
Carnegie Institution of Washington

John Quincy Stewart
Professor of Astronomical Physics
Princeton University

CANADA

Hon. Charles Camsell
Former Commissioner
Northwest Territories

Frank Cyril James
Principal and Vice-Chancellor
McGill University

GREAT BRITAIN

Sir Patrick Ashley Cooper
Governor
Hudson's Bay Company

Julian Sorell Huxley
Former Director General
United Nations Educational, Scientific and Cultural Organizations

Edward R. Dewey, Director

Cycles IS PUBLISHED BY THE FOUNDATION FOR THE STUDY OF CYCLES EVERY MONTH EXCEPT DURING JULY AND AUGUST AT THE FOUNDATION'S OFFICE AT EAST BRADY, PENNSYLVANIA. SUBSCRIPTION RATE $10.00 A YEAR. ENTERED AS SECOND CLASS MATTER AT THE POST OFFICE AT EAST BRADY, PENNSYLVANIA, WITH ADDITIONAL ENTRY AT ANN ARBOR, MICHIGAN. PUBLICATION OFFICE, 680 WEST END AVENUE, NEW YORK 25, NEW YORK.

cycles
—a monthly report

VOLUME VI NUMBER 3 MARCH 1955

The official Bulletin of the Foundation for the Study of Cycles

The Director's Letter

Dear Member:

If I owned any stocks I would sell them today. (February 1, 1955) This does not mean that the market may not advance importantly beyond present levels. It merely means that I, personally, would not tempt fate further.

Not An Expert

It is perhaps presumptious for me to express an opinion in regard to the market, for, as I have told you many times, I am not a stock market expert. I am merely a scientist engaged in studying cycles (rhythmic fluctuations). My field of competence is limited to *cycles* in various sorts of natural and social phenomena. Moreover, although there is evidence of rhythmic fluctuation in stock market prices, there are doubtless many non-cyclic forces at work in the market, too. About these I know little or nothing. And besides, I know about only *some* of the cycles.

Let The Other Fellow Make The Profit

If someone who did know all about stocks were to tell me that the market would continue its advance for several months, or a year, or even two years, I would not dispute with him. I simply do not know. I am *not* a stock market expert. In writing as I did above, I am merely saying, from now on I, personally, would let the other fellow make the profit.

Of course I have a basis for thinking that the best of the party is over and that it is time to go home. You are entitled to know this basis.

Basis of My Opinion

My opinion is based chiefly upon the fact that a stock market projection which I made in 1944 has worked very well over an 11 year period. (If you had followed it from then to now your gains would have been 185 times your losses. You can see this by reference to an article in the "How It Came Out" section on page 92 of this report.) The projection shows that the combination of 10 cycles over 4½ years in length which I discovered at that time would top out in 1954. As the projection has worked almost perfectly for 11 years I think we are justified in thinking that there is probably something to it, even though the work was pretty crude and cannot reasonably be expected to continue to hit the mark so well, except as a matter of luck.

Two Other Factors

Two other factors influence my thinking. One is the fact that stock prices are now importantly above trend. The other is the preoccupation of so many people with stock market speculation.

I am amazed—and concerned—by the universal interest in the market. Vice presidents, barbers, housewives, doctors, chairmen of boards, laborers, chemists, clerks, tool makers—all have a common interest, "stock market."

A Survey

We recently asked a number of our members what they did and what was their chief cycle interest. The answers were monotonous, "stock market," "stock market," "stock market," "stock market," In fact, when I came across the card of a vice president of a public utility company in Texas who answered that he was interested in the sales of electricity I shouted, "Heavens! What's the matter? Here is a man interested *in his own business*."

Sex

Of course I exaggerate. To be factual, of the 735 votes cast, 373 were for stocks, bonds, and commodities; the other 362 were scattered all over the lot. One man—the president of a printing company of Cleveland—avowed that his chief interest was "Sex." So you see there *is* interest in other things. But when the ratio of stock market interest to sex interest is 373 to 1, it ain't natural, and to my mind it's dangerous.

Therefore, as I said at the beginning, I myself would get out. If, notwithstanding, you elect to stay in, watch your step.

Will Rogers' advice may be in point here. You may remember Will said, "Never gamble. Never speculate. Buy good stocks. When they go up, sell them. If they don't go up, don't buy them!"

A Foundation Meeting

On Thursday last I had a few Foundation members in for dinner and a gab fest about cycles. I got a great deal from the meeting. Perhaps the members got something too. I plan other similar meetings in the future. Perhaps you can come to one of them.

The idea of small informal intimate meetings of members came from Gardner B. Miller of Falfurrias, Texas, who wrote, "I feel that many of our members have a great deal to offer the Foundation in addition to money." He is right.

Report of Activities

After the dinner I made a brief report of Foundation activities for the year 1954 (see page 91). I also tried to answer questions in regard to cycles. The members added their ideas. We discussed not only cycles but also how the Foundation could best fulfill its obligation to humanity.

One member of the party asked a particularly penetrating question. He said, "I would like to know where we are, and where we are going."

Where We Are

In answering him I said, "I can give you only one man's opinion, but for what it may be worth my feeling is that, in studying cycles, we are at the edge of one of the greatest unexplored fields remaining to science."

More particularly, in studying cycles we seem to be studying the effect of energy waves so long as to stagger the imagination.

Ultra-Long Energy Waves

To clarify: When we observe climatic, geologic, biologic, and human cycles, too regular to be easily the result of chance, we are privileged to deduce a cause. When we observe similar cycles in the behavior of the sun and the planets we are privileged to deduce that the cause is outside the solar system—i.e., it must consist of energy waves from outer space. Energy waves from space may be supposed to belong to the electromagnetic spectrum. Such waves travel with the speed of light—186,000 miles per second. An energy wave which travels 186,000 miles in one second will of course travel proportionally farther in a minute, an hour, a day, a month, a year. It is therefore merely a matter of 4th grade arithmetic to figure, for any given time, such as 23 3/4 months or 17 3/4 years, just how long such a wave would be. If you take the trouble to work out the problem it will probably jolt you. Anyway it jolted me when, 15 years ago, I first realized that it was this sort of thing with which we were probably dealing.

The Frontier of Science

If, ultimately, all of this proves to be so, our concept of the universe will be expanded as much as by any of the great historic milestones which have marked the forward march of science over the past thousand years. Cycles, I believe, are the clue to unexplored frontiers.as great as those which were opened up by the discovery that the earth goes around the sun, that there are such things as germs, that all matter is made up of some four or five score elements, or that the elements themselves are made up of whirling particles of electricity. With such magnificient vistas of the glory of God as cycles open up before us, it seems to me relatively unimportant whether Kumquat Preferred closes at 97 3/4 or 97 7/8.

Where We Are Going

As for where we are going, the answer is, "We are going forward!" Very slowly, it is true, but forward none the less. We *are* making progress.

A Vast Concept

I hope I have got over to you that the basic concern of the Foundation for the Study of Cycles is with matters so great that your petty little worries and my petty little worries are really quite unimportant in comparison. I don't mean that you and I shouldn't try to squeeze every practical advantage we can from the results of the work as we go along. That's fine. But the practical advantage is an incidental *result* of our activities, a by-product, as it were. It is not the reason for our being.

What I Get Out Of It

Sometimes I am asked what I get out of this cycle business. Well, I get no salary, wages, bonuses, fees, or commissions. However, I do get some benefits. For example I own the building occupied by the Foundation and receive a rent of $20 a month plus building maintenance. The Foundation pays for the telephone, grass cutting, etc. Finally, I get, along with the frustration, a whale of a lot of fun.

Don't get the idea that I am wealthy. My 1952 net income was $1,945. My 1953 net income was $1,826. (I haven't yet figured it for 1954, but probably it was somewhat less). However my wife and I have simple tastes. She is a good manager. It costs us very little to live. And I have a little put by for old age.

I suppose I could earn a fair amount if I chose to work, but as long as my wife and I can eat, and are warm, what's the use? If I worked I couldn't find out about cycles. And finding out about cycles seems to me to be the more important.

Don't you think so too?

Ever cordially yours,

Edward R. Dewey

Edward R. Dewey
Director

Research

THREE HYPOTHESES

Summary: This article advances three hypotheses as follows:

1. The first hypothesis is that the lengths of the sort of cycles we have been investigating are related by double progression and by triple progression simultaneously. That is, the hypothesis says that for a cycle of some particular length there should be another cycle twice as long and one-half as long , and one three times as long and one third as long . It follows that there would be still other cycles related to each of these lengths in turn.

2. The second hypothesis is that the ultimate causes of the cycles are ultra-long electromagnetic energy waves originating outside the solar system.

3. The third hypothesis is that the revolution periods of the planets have been influenced by the self same ultra-long waves postulated above. If this third hypothesis proves to be true it would explain why so many of the cycles observed here on earth seem to have lengths which are related to the length of time it takes one or another of the planets to go about the sun.

ARE cycle lengths related according to some systematic law? As I said in an article in our January 1955 report, I think they are. In that article I advanced the hypothesis that many cycles are related simultaneously by both triple and double progression. That is, the hypothesis says that for many cycle lengths you will find another twice as long, three times as long, half as long, one third as long. And for each of these in turn, similarly.

Double and Triple Progression

The idea of simultaneous double and triple progression is not proved. It is just an idea advanced as something worthy of investigation. On the other hand this idea is not being advanced lightly. It is the result of 18 years of continuous study and research. It is, as far as I can recall, the first hypothesis in regard to cycles which I have ventured to put forth on paper.

The idea of *triple* progression (1, 3, 9, 27, 81, etc.) as a law of cycle length is not original. It was advanced sixteen or more years ago by Halbert P. Gillette, a cycle student of San Marino, California. The idea of double progression (1, 2, 4, 8, 16, 32, etc.) may have been advanced by someone too. But the idea of *both* double and triple progression is original, and is new as far as I know.

The Law of Leaf Arrangement

In our February report I wrote an article about non-symmetrical cycles which was intended to further the argument. It introduced you to the law of leaf arrangement (phyllotaxis). It told you that leaves were arranged on the stalk in spirals which were two units one way, three the other, or three and five, or five and eight, etc: in conformity to the law of the logarithmic spiral. It told you that this law governed innumerable aspects of biology. In fact, this law is so important throughout nature that Kepler called it the Law of Creation. In the February article I showed you a picture of a sunflower head to illustrate how this law works in the arrangement of seeds. I also showed you a diagram showing the two—three arrangement of scales on a pine cone. Lest you have forgotten, I reproduce the latter illustration herewith.

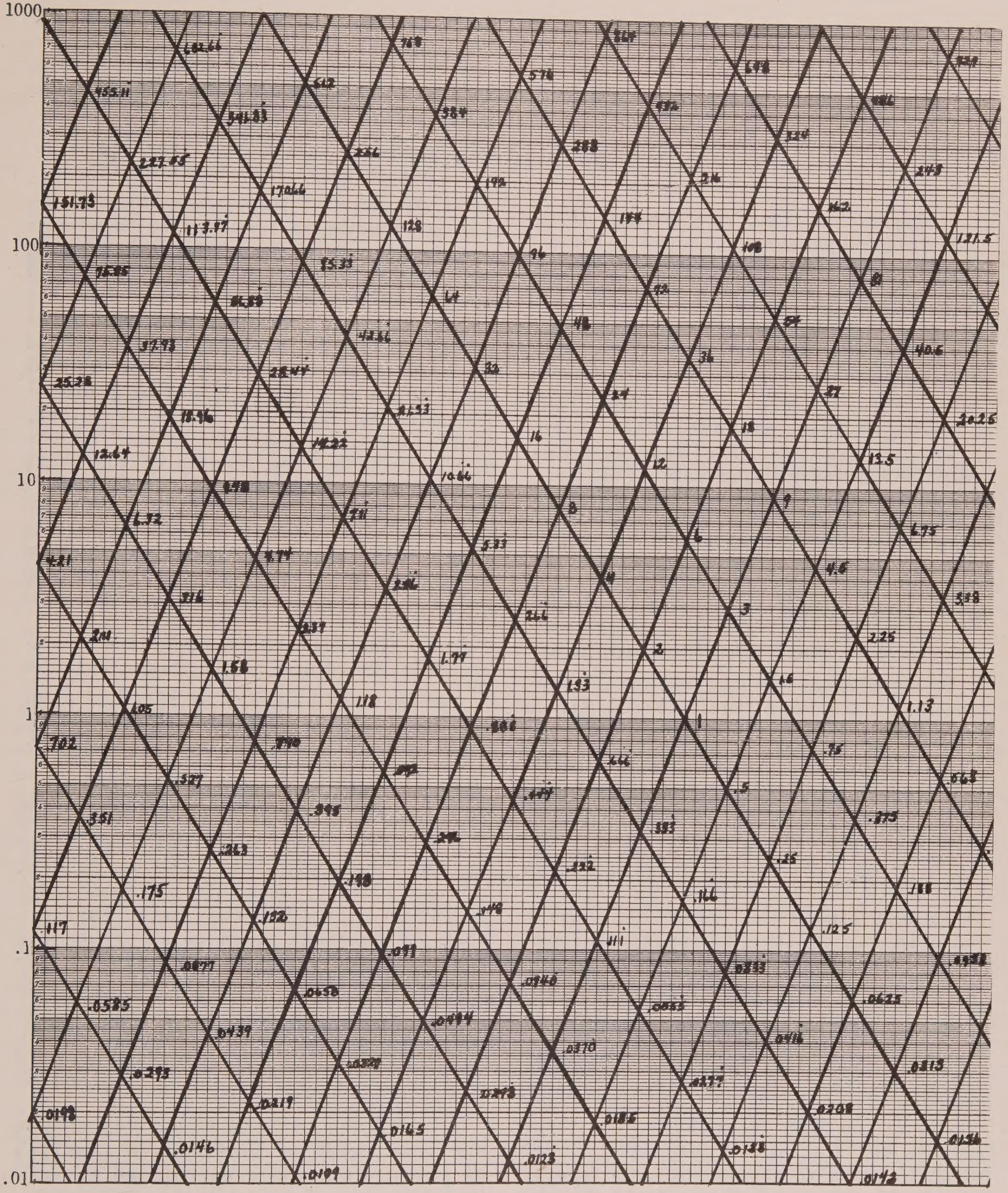


Fig. 1. Diagram to illustrate possible interrelationships of cycle lengths, based on 1 year.

Lines which slope upward to the right increase by triple progression. Lines which slope upward to the left increase by double progression. Ratio Scale.

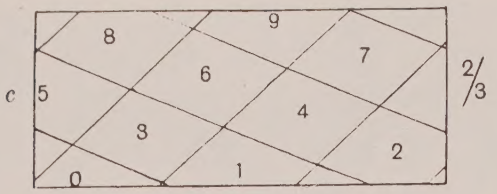


Diagram to illustrate the law of leaf arrangement with growth two units in one direction, three in the other. From Sir D'Arcy Thompson's *On Growth and Form.*

Now refer to Fig. 1 which diagrams on ratio scale this simultaneous two—three progression. The diagram goes upward and downward from unity. You will notice that the shape of the lozenges formed by the intersecting lines are similar to those created by the pine cone pattern. In fact, if the scales of the two chart were suitably adjusted, the shapes would be identical.

How It Works

If simultaneous double and triple progression *is* the law of cycle length, Fig. 1 gives you a pretty good picture of how such a scheme would work out. Starting with unity, and going up on the chart, you would have cycles two units long and three units long. Then each of these lengths would "generate" double and triple lengths. For the two unit length there would be four units and six units long; for the three unit length the "generated" length would be six units and nine units long. These three lengths, 4, 6, and 9, would, on their part each "generate" double and triple lengths. These would be 8, 12, 18, and 27 units long. And so it would go.

These are the multiples (and fractions) you would apply to your base length in order to find the lengths of the other cycles in the same family. I worked these lengths out for up and down from a base of 17.75 years in the January '55 report. You saw how many well known cycle lengths fitted into the picture within tolerances of about one percent.

Of course 17.75 years is not the only base from which you could go up and down. There are several. You might take one year for example. If you do, Fig. 1 will give you the lengths up and down without the need of multiplication. You will recognize many familar lengths.

Cycles Caused by Ultra-Long Energy Waves From Outer Space?

If the cause of these cycles is cosmic—a second hypothesis I would like to advance at this point—what could the length of the year have to do with the matter? To us the year is an important length, but from the cosmic point of view is it merely the length of time it happens to take one of the smaller planets of one of the smaller stars to go once around the sun? Happens? I wonder! Do things just "happen?" Rather, could it not be that the length of the year itself, and the lengths of the years of the other planets, too, are the *result* of the ultra-long cosmic waves postulated above. If so, it would explain why we so often find cycle lengths which seem to be related to the length of time it takes the various planets to go around the sun.

The Planets Seem to Fit Into the Concept, Too.

No one yet knows any of this for sure, but I shall be brash enough to advance it as my third hypothesis that this indeed is the way things are. To avoid ambiguity let me restate: My third hypothesis is that the various planets of the solar system have, like ourselves, been acted upon by the same ultra-long waves that act upon climate, plant life, animal life, and human beings here on earth. Further, that the original times to go around the sun (or some fractions thereof), in the beginning more or less corresponded to one or another of these ultra-long waves, and finally, that over the course of eons, the original periods were trued up to precise conformity to one or another of the various cosmic waves.

It follows, if the above hypotheses are true, that we should have families of waves which would be related in wave length to each of the nine planetary years. There is evidence that we do. However, presentation of the evidence had best be reserved for the subject matter for another article. *E.R.D.*

THE 5 1/2-YEAR CYCLE IN CORN PRICES —Continued

ONE of the many cycles present in corn prices is about 5½ years long, measured from top to top or from bottom to bottom.

It is an important cycle for three reasons:

Result of a Regular Force

First, we *know* it is present in corn prices as a result of some regular underlying force. We know this because, as I told you last month, this cycle was discovered by Samuel Benner *in 1875* and has been coming true ever since. This could not reasonably happen as a result of random forces.

It is reasonable to suppose that this force is a natural environmental force—as natural as winter and summer. However this force has a wave length of about 5½ years instead of 1 year.

Force Environmental

It must be environmental—not a matter of internal dynamics—because no internal dynamic force—such as a corn-hog relationship for example—could be expected to maintain its precise timing in the face of all the dramatic changes in our economy that have taken place over the past three quarters of a century. Such changes include changes in buying habits, changes in eating habits, and changes in methods of agricultural production, to say nothing of the distortions caused by two world wars thrown in for good measure.

It is reasonable to suppose that this force may be external to the earth, for a cycle of seemingly the same length has been found in the double sunspot cycle.

In other words, it is reasonable to suppose that whatever it is that makes corn prices go up and down acts as a very sensitive galvanometer to pick up evidence of some force in our environment which behaves similarly.

In many series of figures we see cycles that *seem* to have been caused by regular forces, but when you are looking backward, it's hard to be sure. Here we knew about the cycle *ahead of time*. The cycle continued to come true for *80 years after discovery!*

Exact Measurement Possible

Second, these figures offer an opportunity for very exact measurement, for corn prices are available by months from January 1720 to date—235 years.

Exact measurement is vitally important in cycle study because it is the first step (a) toward knowing cause and (b) toward learning the laws that govern the inter-relationship of cycle length.

Practical Value Also

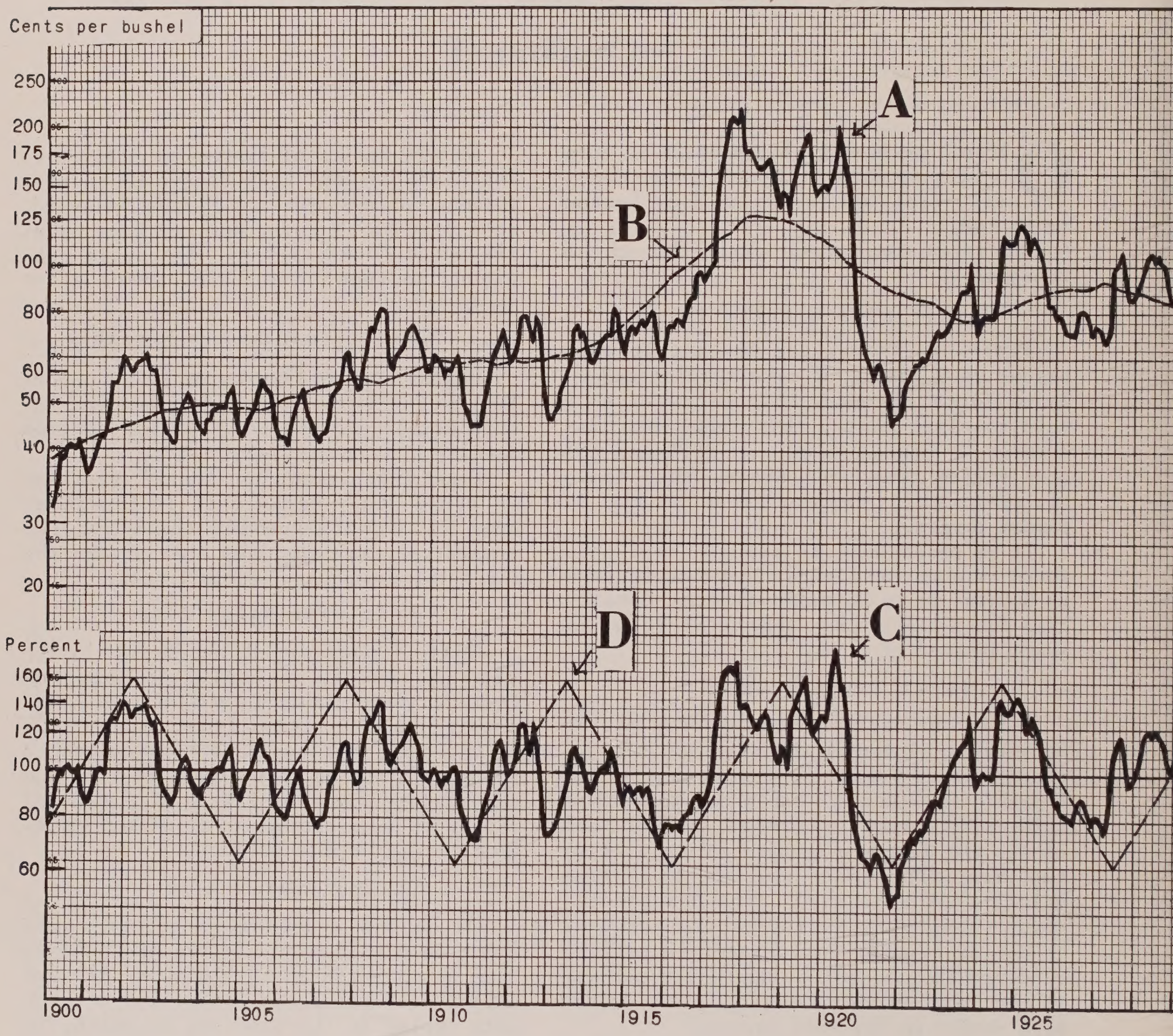
Third, a knowledge of the 5½-year cycle, even by itself, is useful in throwing light on the probable future price of corn. Trading on this cycle from January 1900 to December 1954 would have given you 17 gains to 3 losses, a net gain of 915% and a gain-loss ratio of 21¼ to 1. A gain of 915 in 55 years amounts to 16.6% per annum. (See buy-sell table below.)

Other Cycles Also

Of course no sensible person would trade on a knowledge of this cycle alone when he could do so much better for himself by combining and projecting several corn cycles in the same way in which, in 1944, I combined several stock market cycles. I imagine that some of the people who make money in the corn market do make such projections, thereby getting the better of the people who don't. (If you are one of those who don't, remember this, next time you lose money on corn!)

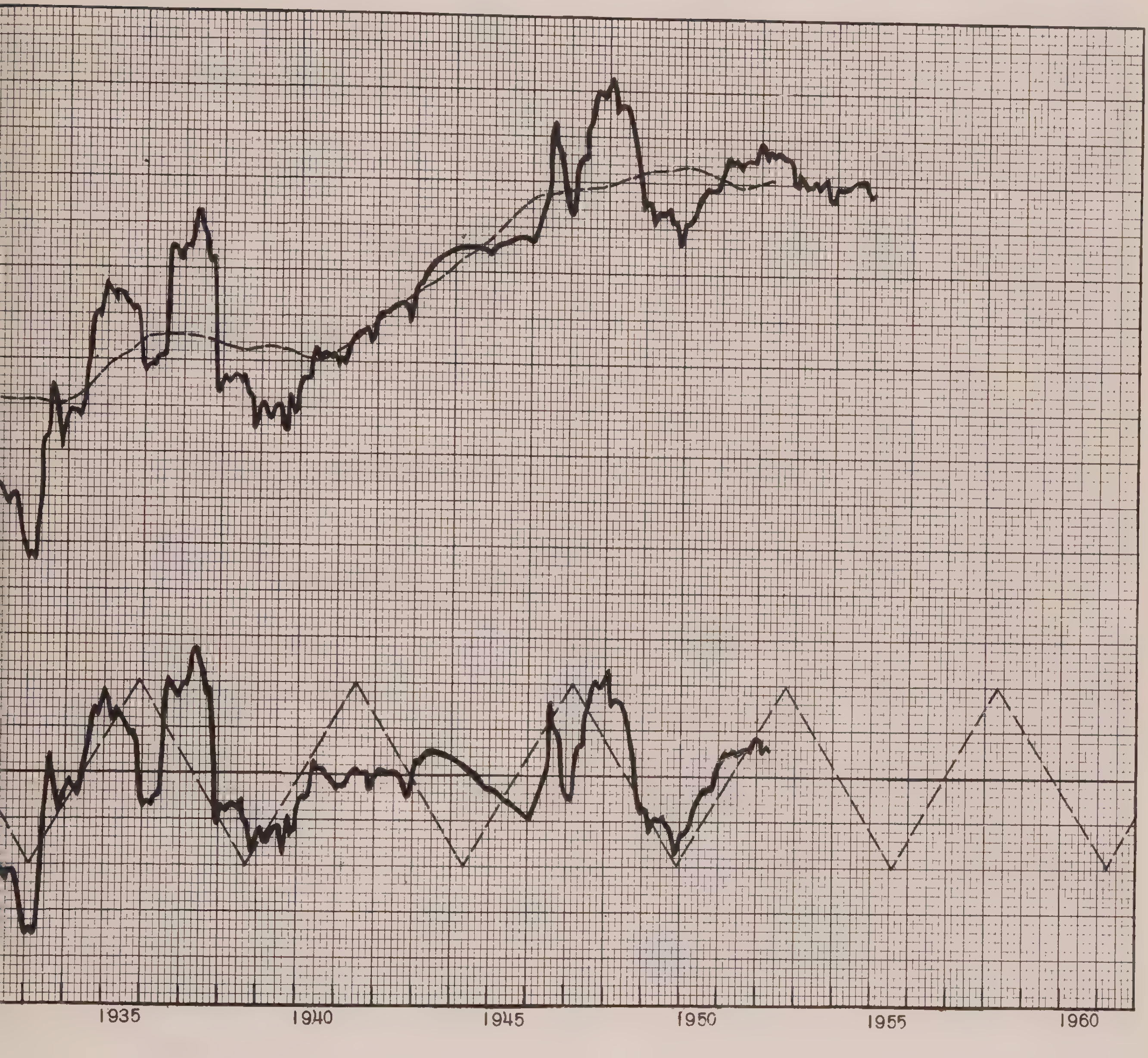
How Long Is It?

The scientific problem posed by the



The 5½-Year Cycle In Corn Prices

Curve A. Corn Prices in cents per bushel January 1900-December 1954.
Curve B. The 65-month moving average trend of Curve A.



Curve C. The percentages by which corn prices were above or below the trend.
Curve D. A perfectly regular 5.61-year (67 1/3-month) zigzag to diagram the typical behavior of this cycle over this period. Ratio Scale.

5½-year cycle is no longer, "Is it accidental?" The problem is, "How long is it."

The problem is a simple one to answer, but it takes a little work. A series of figures as long as this involves 42 repetitions of the cycle, if it is present all the way back. There are 2,820 average monthly prices to take into account. However, it is this very length which should enable us to make a very exact determination of wave length.

Investigation Started

I am starting this investigation by a study of the 5½-year cycle as found in monthly corn prices January 1900, through December 1954. As fast as possible, I shall carry this investigation backward to 1720.

For the period January 1900 through December 1954 this cycle in these figures had the characteristics given below:

Length 67-1/3 months. Average strength, 130% of trend at time of crest, 77% of trend at time of trough. Ideal time of next trough, June-July 1955. Ideal time of next crest, April 1958.

Prices Charted

A chart is shown on the next two pages which graphs corn prices, January 1900—December 1954, trend, percentages above and below trend, and the 67 1/3 month cycle, respectively.

It is not to be expected that the fifty years from 1850 to 1900 will show the exact length of 67-1/3 months. Nor are the periods 1800 to 1850, or 1720 to 1800 likely to show exactly the same length either. There are doubtless other cycles in combination which, temporarily, make the 5½-year cycle look longer or shorter than it really is. That is why we need to use such a long series of figures to get its exact length. We won't have anything of real scientific value until the whole investigation has been completed.

However in the meantime it may be of interest to examine the regularity of this 67 1/3-month cycle during the 55 years under review.

During the 55 years being considered the ideal 67 1/3-month cycle in corn prices has had 10 crests and 9 troughs. A majority of the crests have come within 14 months one way or the other of perfect timing. A majority of the troughs have come within four months of perfect timing. It is thus easy to see that the bottoms are much more regular than the tops. In fact, two thirds of the bottoms have come within five months of perfect timing. This suggests that, based on the experience from 1900 to date, the odds are 2 to 1 that the low of the present cycle will come between February 1955 and December 1955. (But don't forget that the odds are 1 to 2 that it will come *outside* these limits!)

The fact that lows are more regular than highs suggests that along with the 67 1/3-month cycle there may be one or more additional cycles such as 33 months, or 17 months, which have a length close to some even fraction of 67 1/3 months.

Summary

A 5 1/2-year cycle was discovered in 1875.

It has continued to assert itself over an 80-year period.

It cannot reasonably be the result of chance. It cannot reasonably be the result of internal corn price dynamics. It must therefore reasonably be an environmental force. There is reason to believe that this force may come from outside the earth.

To help us run down the cause of this cycle we need to measure its length as exactly as possible. This article reports upon the start of such an investigation.

In the period 1900 through 1954 the cycle was found to be 67 1/3 months (5.61 years) long. As the investigation proceeds a more accurate determination of length will be possible.

This is only one of many cycles present in corn prices. However trading on this one cycle alone you would have made 21¼ times as much as you lost, 1900 to date. Your gain would have totaled 915% net (before brokerage), or 16.6% a year.

When this report reaches you we will be within four months of the ideal time of low as determined from a study of data January 1900 through December 1954. After that time the 5 1/2-year cycle will, if it continues, exert an upward force which should be taken into account, along with all other factors, by those who need to know the probable future price of corn.

The date of June-July 1955 for the current low is a slight refinement of the date of April-May 1955, given in our February report. The refinement is made possible by the use of monthly instead of annual figures.

The next step is to refine further by a study of all available figures back through 1720.

E.R.D.

CORN

Imaginary purchase and sale on the basis of a 67 1/3-month cycle,
January 1900—December 1954.

Date	Buy	Sell	Short	Cover	Gain in Cents		% Gain	
					Long	Short	Long	Short
*Jan. 1900	30							
Mar. 1902		59	59		29		96.7	
Jan. 1905	42			42		17		28.8
Oct. 1907		65	65		23		54.8	
Aug. 1910	64			64		1		1.5
June 1913		60	60		-4		-6.3	
Mar. 1916	73			73		-13		-21.7
Jan. 1919		143	143		70		95.9	
Nov. 1921	47.4			47.4		95.6		66.9
Aug. 1924		117.3	117.3		69.9		147.5	
June 1927	98.9			98.9		18.4		15.7
Apr. 1930		82.0	82.0		-16.9		-17.1	
Jan. 1933	23.6			23.6		58.4		71.2
Nov. 1935		62.1	62.1		38.5		163.1	
Sept 1938	52.7			52.7		9.4		15.1
June 1941		73.7	73.7		21.0		39.8	
Apr. 1944	114.5			114.5		-40.8		55.4
Feb. 1947		141.9	141.9		27.4		23.9	
Nov. 1949	116			116		25.9		18.3
Sept.1952		176	176		60		51.7	
**Dec. 1954				152		24		13.6

	Long	Short
Gain	+673.4	+286.5
Loss	- 23.4	- 21.7
Net Gain	650.0	264.8

Total Gain	+959.9
Total Loss	- 45.1
Total Net Gain	914.8

*January 1900 was not the ideal time of low for the 67 1/3-month cycle. I used this date here merely because it happened to be the time when this particular section of the study began.

The ideal time of low was May 1899 for which month the average price was 33.

**December 1954 was not the ideal time of low for the 67 1/3-month cycle. This date was used to close out the short transaction merely because it is the latest price available to me as I write. In July 1955, when this cycle is due for its low, the price may of course be higher or lower. No one yet knows.

THE 3-1/2-YEAR CYCLE IN CONSCIENCE MONEY PAID BY BRITISH TAXPAYERS

Editors Note: An article in the Financial Times (London) of November 17, 1954 discusses the ups and downs of conscience money paid by British taxpayers. The article is reprinted herewith.

A 3½-year cycle is clearly present in these figures, even though the crests due in fiscal years 1932-33 and 1936 were practically non existent.

I have added arrows at 3½-year intervals to aid your eye.

I will venture the prediction that the fiscal year 1957 will again show an increase in money paid into the conscience fund by British taxpayers. E.R.D.

Arresting Item

ONE especially arresting item is to be found on the revenue side. Year by year receipts are recorded under the heading "Conscience money—money remitted to the Chancellor of the Exchequer by sundry persons for conscience' sake." The curious observer may wonder if this fiscal weather-vane can tell him anything about the virility of the British conscience in these modern times.

If he was sufficiently diligent to track down the amounts of conscience money presented to the Exchequer in the last 30 years or so, he would find that the figures followed the somewhat esoteric course of the graph shown here. Probably the first thing to strike him would be the two enormous humps in the career of conscience money in our generation—one in 1928-29 and one in 1942-43. The odd fact that the totals of conscience money received in these two years were almost identical—£14,986 in 1928-29 and £14,862 in 1942-43—he could probably dismiss as no more than a rather impressive coincidence.

New Issue Boom Year

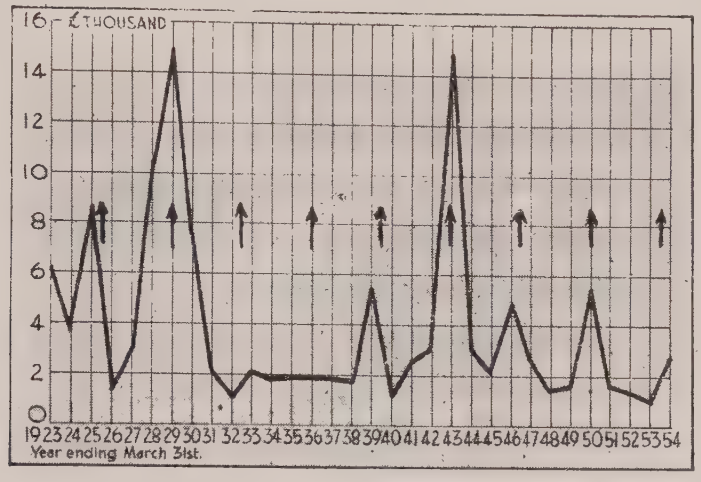
BUT why the humps at all? What spiritual east wind stirred the consciences of the British taxpaying public to such effect in those years? Why 1928?—can it be that the ill-starred new capital issue boom of that year left a heritage of uneasy minds for certain company promoters as well as unrewarding ventures for many investors? And why 1942? The war, certainly; but what great event of that year in particular drove patriotism so violently into the secret recesses of the tax-evading mind?

But the mystery would deepen as the observer contemplated the curve of conscience longer. There are two big humps, certainly; but there are other, smaller, humps too. And the odd thing is that the humps occur with a degree of regularity which is too striking to be easily dismissed as sheer coincidence. Counting one very small, incipient hump in 1932-33, and the peak of 1953-54, there were eight humps in the British fiscal conscience between 1923-1924 and 1953-54. Of the seven intervals between them, five were of four years; of the other two, one was three years and the other six.

Economic Wretchedness

BOTH the anæmic hump of 1932-33 and the long interval of six years which followed it could logically be put down to the economic wretchedness of the 1930's. But why this regular four-year cycle of ebb and low tide in the British conscience? Is it that it is only when fiscal sins have cumulated over four years that our conscience-capacity is reached?

But perhaps the most revealing aspect of the whole affair is the failure of the monetary value placed on the comfort of the



The Curve of Conscience.

British conscience to rise with the monetary value of everything else. During the early 1920's, before the great hump of 1928-1929, the amount paid over year by year by the conscience-stricken averaged about £4,600: in the years since the end of the recent war it has averaged a mere £2,300. Yet a post-war pound, the statisticians tell us, is worth little more than 12s of the pound of the early 20's. The scope for the burdening, and *a fortiori* the subsequent relieving, of conscience would have increased over those years, one would have thought, rather than diminished.

Escape More Perilous

MUST the seeker after knowledge of the British character conclude that the Welfare State has whittled away our consciences in the way that it has been alleged it has undermined our initiative and our thrift? Or do we simply see here evidence of something which most of us have instinctively felt —that with every day that dawns Her Majesty's Commissioners of Inland Revenue grow ever more efficient in their awful work, making avenues of escape daily more rare and daily more perilous, leaving less and less for our consciences to conceal and subsequently disgorge?

Before mysteries as profound as these the most daring investigator can be forgiven for standing appalled. His friends will do well to advise him that here neither professor nor prophet can help him; his safest course will be to conclude simply, as others have before him, that the British mind travels strange and devious courses.

OVERLEAF ⟶

"INSPIRATION" --a bit of Modern Art. Note that even here we have cycles as part of the underlying structure!

SAMUEL TURNER RENNER

Born August 17, 1832—Died January 2, 1913

SAMUEL TURNER BENNER

PIONEER CYCLE ANALYST

FROM time to time I have told you of the remarkable cycle forecasts made in 1875 by Samuel Benner, a self styled Ohio farmer.

Benner discovered the 9-year cycle in pig iron prices. He discovered that this cycle had irregularities which also repeated. He made a forecast of pig iron prices which came true up to World War II. If you had traded pig iron on the basis of his cycle from 1875 to 1935 you would have made 44 times as much as you lost. There would have been only two unprofitable transactions with an average loss of 4.6% each. There would have been twelve profitable transactions with an average gain of 35.5% each.

If you disregarded the World War I gain which happened to fit into Benner's forecast your gains would still have been 31 times your losses.

Benner also discovered cycles in cotton, corn, wheat, and pork prices and in panics. I told you about the 5½-year corn price cycle in the February 1955 report. It has come true from 1875 to date with a gain loss ratio of 3 1/4 to 1.

Who is this man who made these remarkable forecasts?

Through the courtesy of Col. Ralph C. Benner of Washington, D. C., a grandson, I am able to reproduce an old family portrait and to give you the following biographical details.

Samuel Turner Benner was born at Bloom Furnace, Lawrence County, Ohio on August 17, 1832. He was the son of Judge John Benner and Ann Turner Benner; and the grandson of Christian Benner who came to Ohio in 1803 from Pennsylvania.

Shortly after he was born, Samuel's parents moved to Mary Ann Forge (iron works) near Bainbridge where he spent his boyhood.

After graduating from the old academy at Chillicothe, Ohio, he took charge of his father's furnaces at Callia, Keystone, Eagle, and Latrobe.

In 1855, at the age of 23, he was appointed postmaster at Latrobe.

He enlisted in the 12th Ohio Cavalry and was made corporal February 1, 1864; sargeant July 1st, 1865 at Lexington, Kentucky.

He was married in 1868 to Ellen Salts, a daughter of Senator Stephen Salts of Dundas, Ohio. They had one son, Stephen.

In 1871 Samuel Benner was a prosperous Ohio (Bainbridge) farmer: Farms, hogs, corn. Came the panic of 1873 and hog cholera. Benner lost everything. With his wife and son he moved to Dundas, Ohio to his wife's farm. His motive in life thereafter was to try to find out what caused panics and what caused ups and downs in prices.

In 1875 when his famous *Prophecies* were copyrighted, he was 43 years old.

The *Prophecies* were published in book form by The Robert Clark Company of Cincinnati under the title *Benner's Prophecies of Future Ups and Downs in Prices*. This book was reprinted by the Foundation for the Study of Cycles as Reprint No. 24. A few copies of this reprint still available.

Benner himself reissued the book from year to year with postscripts and supplemental forecasts. His last prediction made in December 1907 was for seven years.

Samuel Benner died January 2nd, 1913 at Dundas, Vinton County, Ohio, in his 81st year.

He will go down in history as a great pioneer and as the father of cycle study in America. *E.R.D.*

Technical

COMBINATION OF CYCLES

By H. K. R.

THE purpose of this study is to take several theoretical component cycles, combine them into a composite 'economic series' and then to investigate what 'symtoms' we can detect in the composite to assist in forecasting its future. Since other studies published by the Foundation show that, in practice, there may be dozens of components operating at a given time and since much detail is omitted, the illustration used is about the ultimate in simplification. Much information may be obtained from even this, however, and other students of cycles may try different combinations and discover much more than is attempted here. The writer has carried his work much further than appears but is not ready to publish all conclusions.

The Component Cycle

At the top of the diagram are shown 3 component cycles, chosen more or less at random. These are, respectively, a long major component in solid black, a steeper intermediate component in broken black and a minor one in solid black. In the lower part of the chart, these components are shown combined, according to their respective plus or minus values from the zero line, into the composite, which, perhaps accidentally, bears considerable resemblance to many actual series. Our problem now is to study the action of the composite and having here the unusual advantage of knowing what causes its vagaries, to determine from effects what the causes are and then to use these causes as a means of forecasting the composite.

The Analysis

Having no back record of immediate importance on our curve, we start at A and let it develop. We note the steep move and observe that it is due to the fact that the principal components are acting in unison downward. About midway between A and B, where the intermediate component is passing through its zero level and thus becomes largely ineffective, the minor has its maximum influence and produces a temporary slowing down of the major component. The fact that, after this, the curve continues at the same speed as before, shows that the two chief components are still in unison down.

At B, the curve definitely turns after a little churning, but proceeds up less vigorously than it came down. We conclude that the chief components are now in opposition and having no evidence that the major has turned—to be developed later—it appears that it must be the intermediate. The fact that the major was crossing its zero level at the time permitted the intermediate to have its maximum influence at this point B.

The conclusion that the chief components are now in opposition leads to the forecast that the rally will be only an intermediate one and will terminate when the intermediate component reverses. Along the way to this point C, we have the expected hesitation as the intermediate passes its zero level and the minor gets in its dirty work.

At C, we get a trend line AC, parallel to the major component, and through B, we draw a similar parallel which will soon be useful.

At D, we observe the expected minor reversal but thereafter a less precipitate decline than before. So far, this is not very disturbing, although this flattening out of the curve after a minor congestion would cause one to suspect that one of the chief components causing the long trend from A had reversed. But when the curve reversed vigorously at E without reaching the parallel, we had conclusive evidence that it was the major that had turned previously at D and that the climax at E was caused by the intermediate, still influential enough to overcome the opposing action of the major. Thus the climax occurred, not at the reversal of the minor, but at that of the lesser component.

In view of the preceding, it appears redundant to follow the curve along the up move of the major which is merely the foregoing in reverse. We will conclude with some observations of what we have learned as a result of this elementary discussion, realizing that their application in practice, especially where many components make a detailed chart most confusin, will not be easy.

Observations

1. Important turns in the curve occur when the steepest component reverses.

2. A long precipitate move indicates that the chief components are in unison in the same direction. If less so relative to previous performance, that they are in opposition and that the move will be intermediate in character.

3. Failure of the curve to reach an established parallel is clear evidence that the component causing the corresponding trend has already reversed. The violation of the trend confirms this conclusion if any is necessary. Thus the classical use of the "channel" of parallels has reasons for its validity.

4. An additional observation not illustrated on the chart is that if the two chief components reverse at the same time, we get the classical head and shoulders formation in the curve. Obviously, with many components operating and rarely two of them sufficiently dominant and properly timed, we do not find this picture developing often. However, it may be added that, in a stock average, such a picture appeared clearly in 1953, with the climax in September of that year.

5. The reader may be cautioned here that when the curve does reach the parallel, it does not necessarily indicate that the component responsible for the trend has not reversed. It and a lesser component may reverse at or about the same time, of which the later development of the head and shoulders is the confirmation.

6. The number of steps making up a long move depends, of course, on the number of influential components and their relative lengths. Only two are shown on the chart. If the reader wishes to add a still longer one, he may slope the zero lines up or down to parallel one leg of the new component.

7. The writer has purposely omitted from the discussion his procedure in forecasting turns in the curve which give him exact dates. Nor for determining the range of such moves, which he is able to forecast not so accurately but still very satisfactorily. In practice, these procedures are vastly different from those applicable to the chart, where answers are so obvious as not to require mentioning.

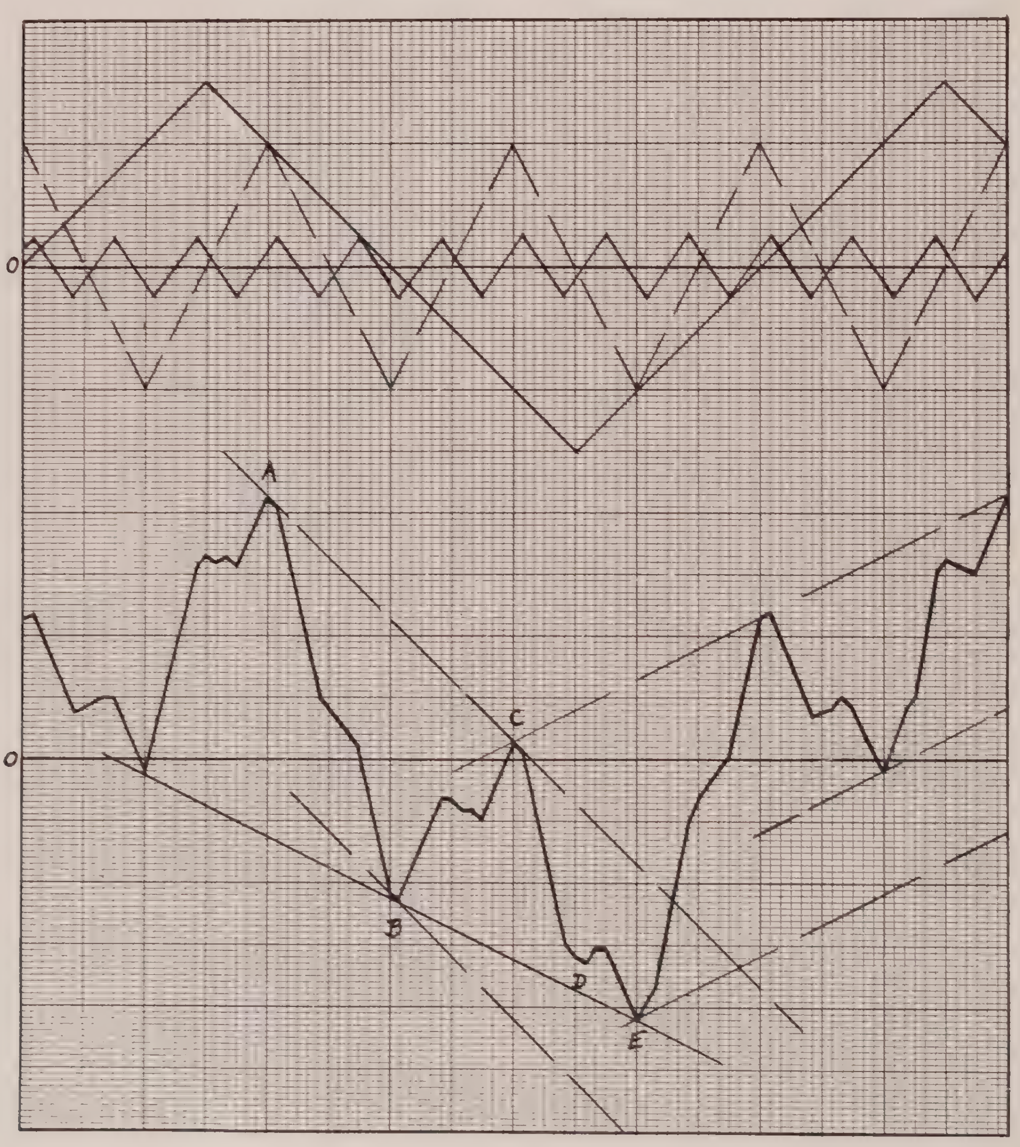
8. As one little task for the reader, no comment will be made on the significance of the 3 point contact with the top trend originating at C— or its parallel. To assist, it is suggested he draw a similar one through the bottom B.

It is hoped that this elementary discussion may stimulate other studies of this fascinating subject.

Addendum

It is obvious that the effect of any component on the composite is temporarily nil at the precise time that component passes its zero level or reverses. At any given time on either side of these points, its plus or minus values will be equal with due regard to sign. The period during which its action will be *comparatively* *unimportant* as far as movement of the composite is concerned, depends on the relative slope of all components and their periodicity. Thus we will have congestions in the curve at these times—long or short depending on the relationship of components. It may be added, parenthetically, that long congestions also appear in the curve when the chief components are working in general opposition.

Of more importance, however, is the recognition in the action of composite at any time what component cause is doing what. Is it crossing zero for a continuation soon, at a reversal to work in opposition shortly, or in between. Once this has been determined, and it is not difficult, information is available from which reliable forecasts of the composite can be made. Moreover, since "congestions" are caused by the interaction of *periodic* components, they may be forecast and it is not necessary to await their development in the curve. Their due date and nature may be determined far ahead and when they appear, they permit a useful check on one's earlier conclusions.



Foundation Affairs

FINANCIAL REPORT FOR THE YEAR 1954

It cost $46,095 to operate the membership plan for 1954 (all figures in the text are rounded to the nearest dollar). This sum includes the cost of typing, printing, and distributing the magazine *Cycles;* billing; enrolling new members to replace those who resign or are dropped for non payment of dues; answering letters from members. It does *not* include the cost of the research upon which our reports are based.

Members paid in for 1954 dues, and for publications, the sum of $44,562. Other income incident to the membership plan amounted to $1,188. This makes a total of $45,750. This sum does *not* include contributions from 85 members who paid *more* than the $10 minimum.

It is thus a matter of simple arithmetic to see that, not counting contributions, we lost $345 on the membership plan for the year 1954.

Our research cost $1,331. Contributions from the noble 85 amounted to $1,088. As you can see, contributions carried almost all of the research load.

Other pertinent figures are as follows: From correspondence course students we received $5,969. For them we spent $2,097. The balance of $3,872 has been set aside as a reserve to service the students during 1955.

On the *Journal of Cycle Research* (given free to scientists) we lost $351.

Grants received (for Dr. Wing) $3,500; spent $4,593. Excess disbursed, $1,093. This sum came partly from money left over from 1953 and partly from 1954 income.

Endowment Fund receipts, none; expenditures, $133.

All this adds up to a red figure. How then did we live? The answer is profit on research done for others. This amounted to $1,952 and my own personal fee of $5,999, which I renounced in favor of the Foundation.

The above is a complete statement of all receipts and disbursement of the Foundation except exchange (wash) items, miscellaneous income of $129, miscellaneous expense of $30, and some 1955 dues paid in advance. These dues are properly to be thought of as 1955 income and will be so considered in the 1955 accounts.

Our cash balance, December 31, 1954, after reserves for 1955-56 dues paid in advance, reserves for 1955 grants pledged, reserves for 1955 servicing of correspondence course students, and reserves for 1955 servicing of unexpired 1954-55 memberships, was exactly zero.

E.R.D.

ANALYSIS OF CONTRIBUTIONS IN EXCESS OF THE $10 MINIMUM

1	person gave $100		a total of $100 in contributions
2	"	100 ($90 excess)	180 "
1	"	60 ($50 excess)	50
2	"	50 ($40 excess)	80
1	"	35 ($25 excess)	25
10	"	25 ($15 excess)	150
39	"	20 ($10 excess)	390
20	"	15 ($ 5 excess)	100
1	"	13 ($ 3 excess)	3
2	"	12 ($ 2 excess)	4
6	"	11 ($ 1 excess)	6
85		Total	$1088

How it Came Out

MY STOCK MARKET FORECAST OF 1944

ANOTHER year has rolled around and, by continued good luck, the forecast I made in 1944 calling for a rise from 1953 to 1954 has been fulfilled. If you had followed this forecast from the time it was made (early in 1944) up to now your gains on completed transactions would now be 185 times your losses.

Complete details in regard to this forecast have been published a number of times—most recently in our report for June-July 1954. That article not only explained exactly how the projection was made, but emphasized some of its limitations.

Decline Forecast

The projection now calls for a decline of several years duration. As soon as I have time I shall revise the forecast in an endeavor to see if I cannot pinpoint the coming bottom more exactly. I would also like to see if I cannot forecast some of the minor wiggles which are bound to occur on the way down.

On the opposite page I have reproduced from the report of June-July 1954 an enlarged diagram of the actual forecast. This forecast is made up of trend as determined in 1939 and 10 cycles as determined in 1944. Actual behavior has been added through 1954.

The Record

As you can see, the forecast is rather badly off for *level,* but so far it has been very good as far as *turning points* are concerned.

It called for a rise 1943 to 1946 (which came).

It called for a decline 1946 to 1949 (which came).

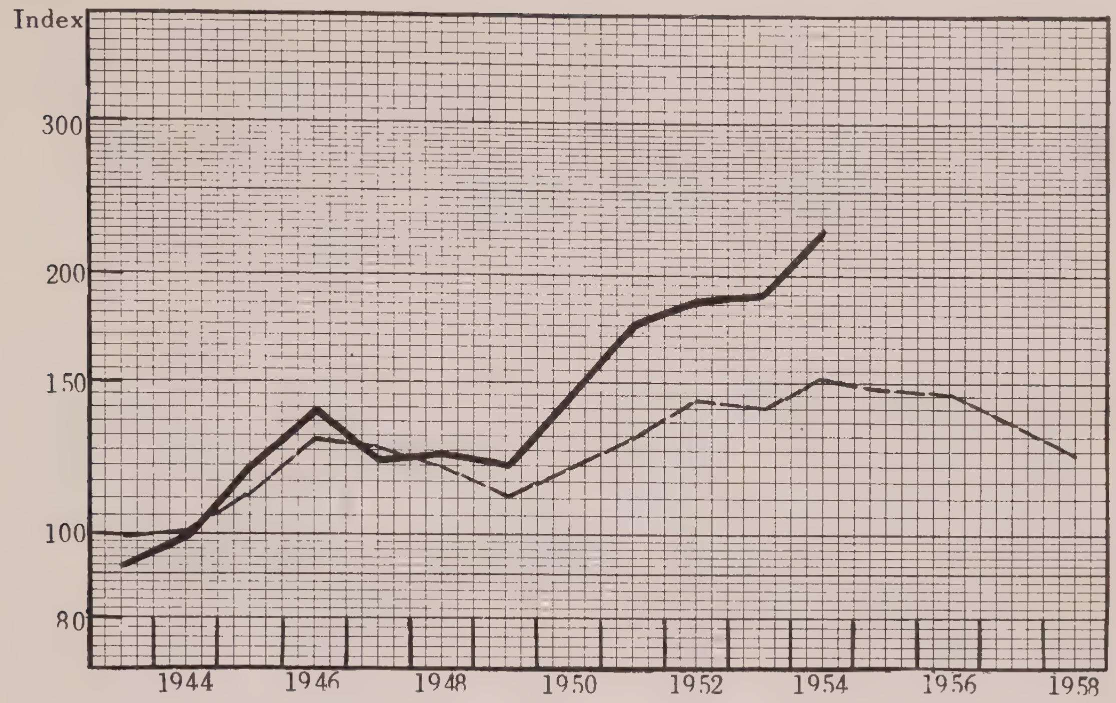
It called for a rise 1949 to 1952 (which came).

It called for a decline from 1952 to 1953 (which did *not* come, and which, if you had followed the projection, would have cost you two-thirds of one percent, your only loss).

It called for an advance from 1953 to 1954 (which came).

It calls now for a decline until 1960. Whether or not this comes is of course up to Fate.

You may be interested in how I got the figure of 185 to 1. The computation is based on the Buy-Sell Table given on the opposite page. *E.R.D.*



Solid line 1943—1954, Standard and Poor's Corporation Combined Index (1935-39 = 100) as this index actually unfolded.

Broken line 1943—1958, a combination of the 10 cycles as determined in January 1944 and trend as determined in 1939. (Ratio Scale.)

Note that the combination of cycles and trend called for a peak in 1946, a trough in 1949, a faltering from 1952 to 1953, and a peak in 1954.

Table 1

Standard and Poor's Corporation Combined Index, 1935-39 = 100
Imaginary Transactions Based Upon Projection of 10 Stock Market Cycles
as Determined in 1944

Year	Buy	Sell	Short	Cover	Gain or Loss	
					Points	Percent
1944	99.8					
1946		139.9	139.9		40.1	40.2
1949	121.4			121.4	18.5	13.2
1952		187.7	187.7		66.3	54.6
1953	189.0			189.0	- 1.3	- .69
1954		226.6	226.6		37.6	19.9
1960				?	?	?

Total Gains	127.9%
Total Loss	.69%
Gain Loss Ratio	185.3 to 1

THE 6-YEAR CYCLE IN ALLIS CHALMERS SALES

THE crest of the 6-year cycle in the sales of the Allis Chalmers Manufacturing Company is due, ideally, midway between 1954 and 1955. This cycle in these figures has, in the past, displayed an average strength of about 20% above trend at time of crest. However as the crest falls *between* years the annual figures on either side of crest would be only 2/3's as big or about 13 1/3% above trend. This would be the ideal effect for 1954 and 1955, except as it is distorted by other cycles and random factors.

Low Due in 1957 and 1958

Similarly the ideal effect of the 6-year cycle would be 13 1/3% below trend for the years 1957 and 1958.

Years 1956 and 1959 would of course, ideally, be on trend.

These facts about the 6-year cycle in Allis Chalmers sales should not be taken as a forecast. Many other cycles are doubtless present in the sales of this company. And of course there are randoms and trend, which must also be taken into account.

Many Cycles Needed

The stock market study referred to on the two pages just preceding shows that in that series a minimum of 10 different cycles had to be taken into account to get a reliable forecast. A diagram of the 6-year cycle in the stock market, all by itself, would have given a very sorry forecast indeed.

My examination into the behavior of the 6-year cycle in Allis Chalmers sales is more from the standpoint of substantiating the 6-year cycle than it is from the standpoint of forecasting. That is, *my* question is, has the six year cycle in these figures continued to assert itself since discovery? (It has.) If, in addition, we can get some incidental light in regard to years of probable strength and probable weakness, that is all to the good, as a dividend. However, as said above, my interest is in principle, to make a pun.

The Record

Sales of Allis Chalmers 1913-1953 are shown in Fig. 1 on the page opposite. Fig. 1 also shows a 6-year moving average trend of these figures. Fig. 2 shows the amount by which the actual sales were above or below trend. The particular method of figuring trend loses 3 years at each end of the series. I have ventured to guess trend values for 1913, 1914, and 1915, but I do not like to guess trend for current figures. Therefore the percentages above or below trend for the last three years are lacking.

How the cycle has worked out for the five years since it was discovered is shown by the heavy line on Fig. 2. So far quite well, don't you think?

E.R.D.

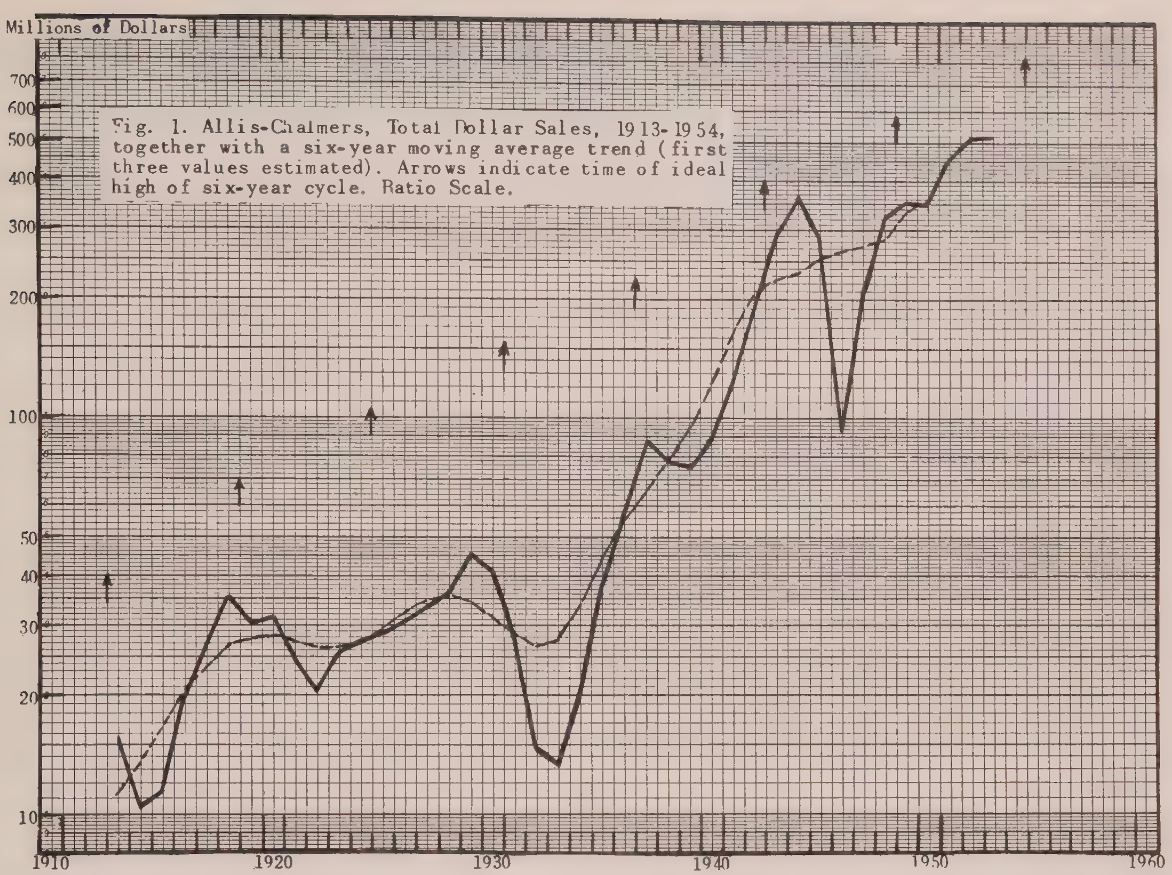


Fig. 1. Allis-Chalmers, Total Dollar Sales, 1913-1954, together with a six-year moving average trend (first three values estimated). Arrows indicate time of ideal high of six-year cycle. Ratio Scale.

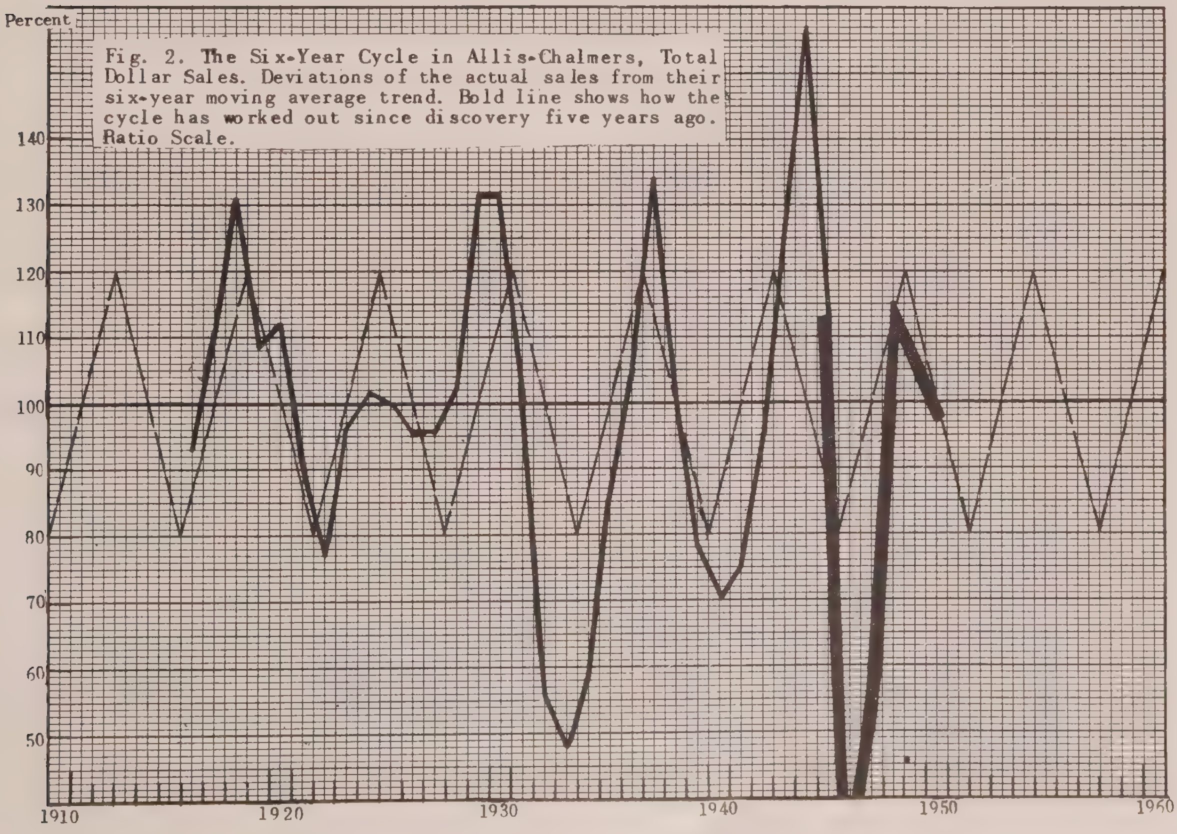


Fig. 2. The Six-Year Cycle in Allis-Chalmers, Total Dollar Sales. Deviations of the actual sales from their six-year moving average trend. Bold line shows how the cycle has worked out since discovery five years ago. Ratio Scale.

Letters

The Modified Geisinger Indicator

Gentlemen:

Suppose a fellow said "Do you know that you're standing within ten miles of one of the best trout pools in the East—a pool full of little ones and big whoppers—and a pool that no one seems to fish?"

If he didn't go on and tell you where it is, you'd come to one of two conclusions—either that he is making things up—or that, while he may not be a S.O.B., his mother did bark when he was born.

Do you really think that the modified Geisinger indicator has value? If you do, you are either going to publish the figure monthly, or else explain how subscribers can work up their own values.

If you do neither, the obvious inference will be that you thought the relationship with the FRB index of industrial production was accidental.

Some years ago, a chart was brought out showing that for three runnings of the Six Day Bicycle Races, the movements of the Dow Jones Industrial Average were in exact ratio to the number of revolutions pedalled. Despite the exact relationship for three races, we decided to give this event no weight whatsoever in planning our investments.

In case of doubt, we happen to be subscribers.

Yours very truly,
Estate of Leonora W. Stern
Edward W. Stern, Trustee
New York 28, N. Y.

My Reply

Dear Mr. Stern:

I enjoyed your letter.

My memory is a little hazy about the early events of my life, but now that you speak of it, I do seem to remember some barking when I was born. Whether it was my mother or someone else's mother, I am not quite sure.

However, getting on to more serious things, I do think that the Modified Geisinger Indicator has value. I do bring the chart up-to-date monthly and from the chart anyone can read the figures. I plan to continue to bring the chart up-to-date.

However, I don't know that I would describe the Geisinger Indicator as one of the best trout pools in the East. I would put it that it is a pool that the trout have come out of in the past, and that it looks as if it might be a good place to fish.

Before relying too heavily upon this or any other indicator, I would like to see how it works out over a period of time. However, I do feel that it is worth watching.

What made you think I wasn't going to continue to publish it?

Cordially yours,

Univac

Gentlemen:

Has anyone tried to use the electronic brain "UNIVAC" to forecast the course of the stock market? It seems to me to have remarkable possibilities in this field. A few people might go broke buying such a machine, but think of the fun.

Very truly yours,
Atlanta, Georgia

My Reply

Dear ....

Nobody has tried the experiment you speak of, as far as I know.

I am no expert on Univac but I am under the impression that the subject of cycle analysis has not yet reached a state such that it can be made mechanical.

Cordially yours,

A Doctor From Washington D. C. Writes

℞

Please take me off your mailing list for further releases. I cannot use them and they assuredly confuse me more greatly than I am normally.

————————M.D.

Additions to the Library

I am so often asked, "Where can I get figures?" that I am devoting this page to a listing of source material. E.R.D.

Historical Statistics of the United States, 1789—1945, Bureau of the Census, 363 pages; price $3.25.

This book gives you, in compact form, about 3,000 statistical time series, year by year, for as far back as figures are available. In addition, it gives you references to many thousand additional series.

Most of the data are annual, but monthly figures are given for about 30 series.

The subjects for which statistical data are given include: (A) Wealth and Income, (B) Population Characteristics and Migration, (C) Vital Statistics, Health, and Nutrition, (D) Labor Force, Wages, and Working Conditions, (E) Agriculture, (F) Land, Forestry, and Fisheries, (G) Minerals and Power, (H) Construction and Housing, (J) Manufactures, (K) Transportation, (L) Price Indexes, (M) Balance of Payments and Foreign Trade, (N) Banking and Finance, (P) Government.

If you can get along with annual figures, and they are best for preliminary cycle work, this is by all odds the best source book of its kind available anywhere.

Continuation to 1952 of Historical Statistics of the United States 1789—1945. Bureau of the Census, 79 pages; price $.55.

This book adds 7 additional years of figures to those originally published. In addition, this book includes 30 pages of revisions of series published in the earlier volume.

Statistical Abstract of the United States, 1954, Bureau of the Census, 1134 tables, 1056 pages, price $3.75.

This invaluable source book continues *Historical Statistics of the United States 1789--1945* through 1953. It gives in addition an enormous quantity of information in regard to our country—I would guess about 100,000 separate figures.

Wholesale Commodity Prices in the United States 1700—1861, Statistical Supplement by A. H. Cole, Harvard University Press, Cambridge, Massachusetts; 359 pages; price about $6.00.

This book gives prices at 6 different American Cities for 46 different commodities month-by-month from 1700 to 1861, insofar as such prices are available.

This book is the best source I know of for early figures for long term studies of monthly commodity price behavior.

Commodity Yearbook 1954, Harry Jiler, Editor. Published by Commodity Research Bureau, 82 Beaver Street, New York, 86 charts, 385 pages, price $12.

This valuable reference book gives monthly figures from January 1945 for some 92 different basic commodities ranging from Alcohol to Zinc. It charts many series.

On the average it gives about 8 tables for each commodity, including the more important pertinent available monthly data. As anyone who has used this book known, it is a gold mine of figures.

From the standpoint of the cycle analyst, the only trouble with this otherwise perfect book, is that the series of figures do not go back far enough. This defect is partly remedied by the fact that the sources of all figures are indicated. Thus by writing the proper agency, doubtless, in most cases, you can get the earlier figures you need.

Also, you could extend the figures backward by buying back copies of the *Yearbook*. The first *Yearbook* was issued in 1939. The editions of 1940, 1941, 1947, 1950, 1952, 1953, and 1954 are still in print, although, in some instances, only one or two copies are available.

Survey of Current Business, U. S. Department of Commerce, Office of Business Economics. A magazine issued monthly (64 pages) with weekly supplements (4 pages), Charts. Price $3.25 a year; 30¢ a copy.

This publication is the most valuable single source of current monthly figures. It reports upon the month by month variation of about 3000 statistical time series. It has enough raw material to keep the cycle analyst busy for a hundred lives.

THE MODIFIED GEISINGER INDICATO

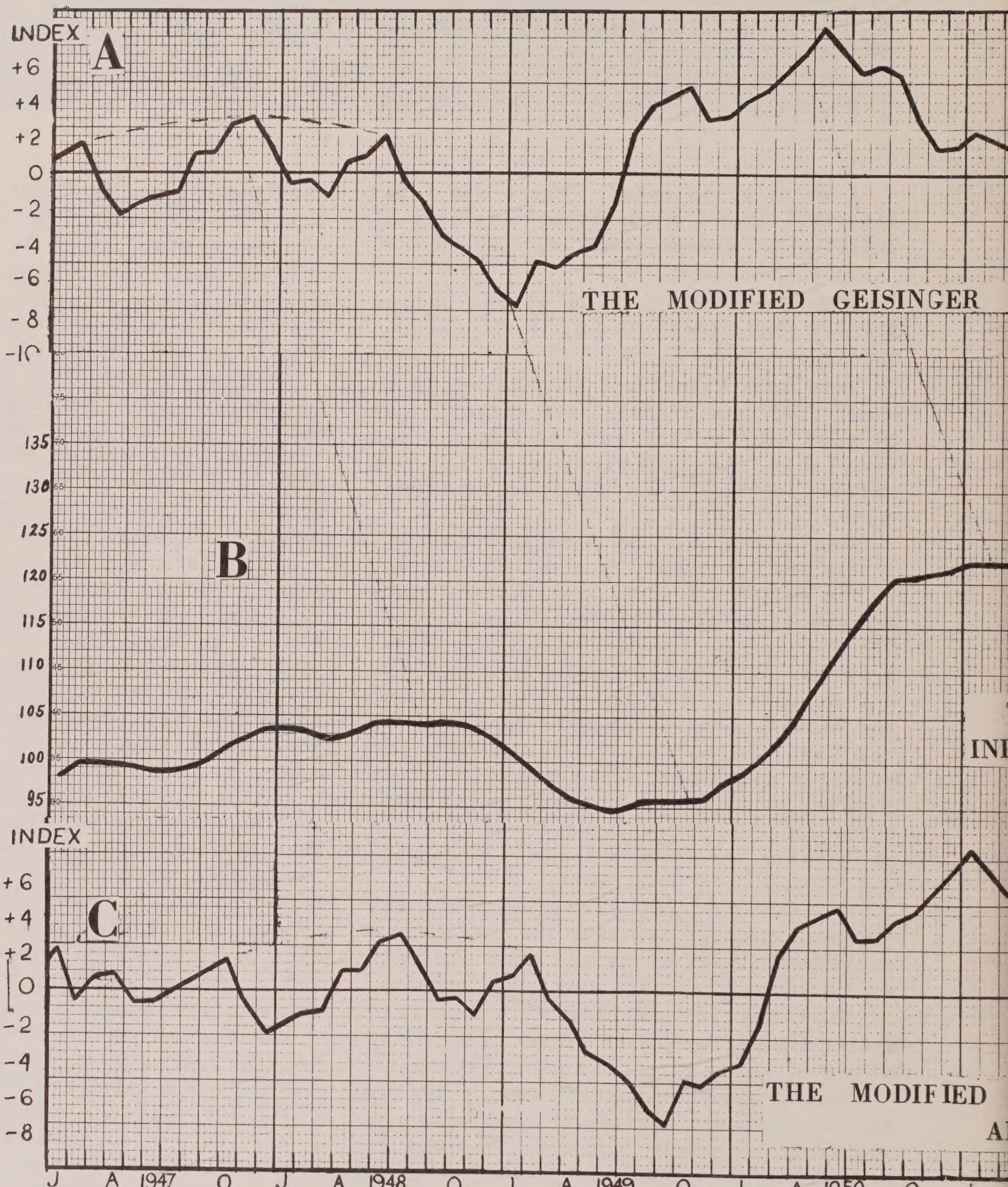
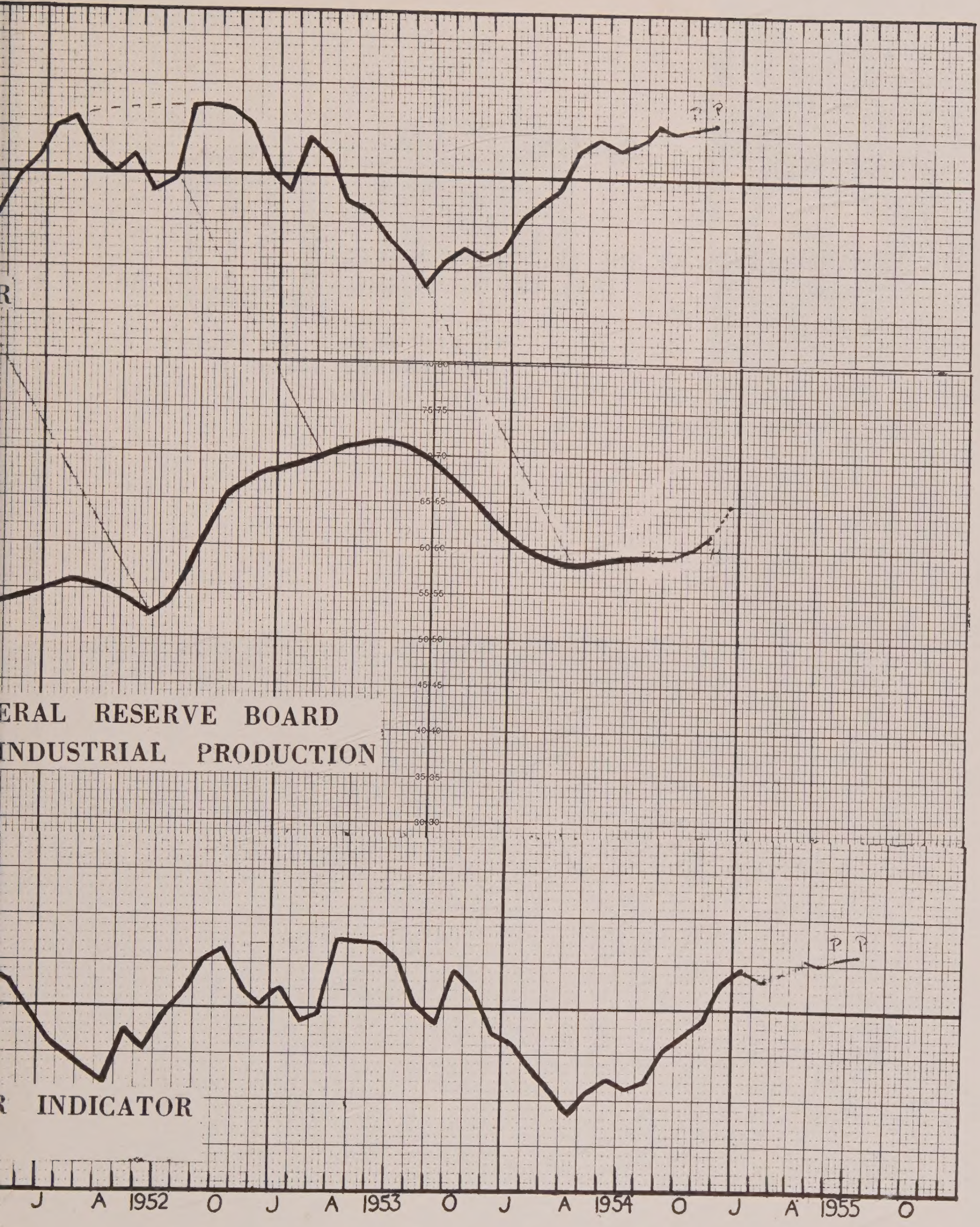


Fig. 1. Curve A. The Modified Geisinger Industrial Production Indicator Curve. This curve is derived from certain figures which are published monthly in the *Survey of Current Business*. It tends to turn about 8 months before the Federal Reserve Board Index of Industrial Production.

Curve B. The Federal Reserve Board Index of Industrial Production adjusted for seasonal variation and smoothed by a 3-month moving average. The value for the latest available month is shown by a dot.

Curve C. This Curve is the Modified Geisinger Industrial Production Indicator Curve advanced by 8 months. This process projects part of the curve into the future. If the relationships of the past continue, the projection gives some hint of what may happen to the Federal Reserve Board Index of Industrial Production (Curve B).

INDUSTRIAL PRODUCTION



THE FORECAST

The Modified Geisinger Indicator continues the advance it began in August of 1953. The turn which this Indicator made in August of 1953 foreshadowed by eight months the advance in the Federal Reserve Board Index of Industrial Production which began April 1954. The continued advance of the Indicator suggests a continuing increase of industrial production until at least July of 1955.

E.R.D.

Mr. H. A. Musham
741 No. Rush St.
Chicago, Ill.

FOR SALE

SETS OF BACK COPIES AT THE FOLLOWING PRICES:

1950 October, November, and December	$2.00
(All five issues, if we get them, $5.00)	
1951 All ten issues	5.50
1952 All ten issues	$5.50
(We will refund 50¢ if we are unable to supply the January issue.)	
1953 All ten issues	5.50
1954 All ten issues	5.50

WANTED

BACK COPIES OF *CYCLES* AS FOLLOWS:

June 1950 September 1950 January 1952 May 1953 September 1953

We will gladly pay $1 each.

We will also gladly pay $1 each for back copies of Vol. 1 No. 1 (Autumn 1951) of the *Journal of Cycle Research.*

FOUNDATION FOR THE STUDY OF CYCLES
680 WEST END AVENUE
NEW YORK 25, NEW YORK